

REMARKS

In the present Amendment, claim 1 has been amended in the following manner:

(1) The recitations pertaining to the "scattering length" for both of the phosphor layer and light-reflecting layer have been deleted.

(2) The phosphor layer is further characterized by the following recitations:

- a) the weight ratio of binder/phosphor is 1/10 to 1/50;
- b) the phosphor particles have a diameter in the range of 2 to 10 μm ; and
- c) the phosphor particles are in the form of tetradecahedrons or globules.

Section 112 support for the new recitations a), b) and c) may be found in the specification at page 16, lines 3-5, page 15, lines 18-19, and page 15, lines 25-26, respectively.

(3) The light reflecting layer is further characterized by the following recitations:

The light reflecting layer comprises a binder and a light-reflecting material in the form of particles, the light-reflecting materials being selected from the group consisting of Al_2O_3 , ZrO_2 , MgO , BaSO_4 , SiO_2 , ZnS , ZnO , CaCO_3 , Sb_2O_3 , Nb_2O_5 , 2PbCO_3 , $\text{Pb}(\text{OH})_2$, PbF_2 , BiF_3 , Y_2O_3 , YOCl , $\text{M}^{\text{II}}\text{FX}$ (M^{II} is Ba, Sr, or Ca, and X is Cl or Br), lithopone (BaSO_4+ZnS), magnesium silicate, basic lead silicate sulfate, basic lead phosphate, aluminum silicate, and hollow polymer powder.

Section 112 support for this amendment may be found in the specification at page 11, lines 1 to 13.

(4) The radiation image storage panel is required to have a protective layer as in claim 5 (now canceled), in which the haze is further limited to 30 to 60%.

Section 112 support for this amendment may be found in the specification at page 17, lines 17-20.

Claim 4 has been amended to depend from claim 1.

Claims 2-3 and 5-6 have been cancelled.

Claims 11-13 have been withdrawn from consideration.

No new matter has been added, and entry of the Amendment is respectfully requested.

Upon entry of the Amendment, claims 1, 4 and 7-13 will be pending.

In response to Paragraph No. 4 of the Action, Applicant affirms his election to prosecute the invention of Group I, claims 1-10.

In Paragraph No. 6 of the Action, claims 1-10 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite.

Regarding claim 1, the Examiner states that the functional limitations pertaining to a phosphor layer having a scattering length of 5 to 20 microns for stimulating and stimulated light, and a reflecting layer having a scattering length of 5 microns or less for stimulating light, are unclear.

Regarding claim 2, the Examiner notes that the claim recites a phosphor particle to binder ratio of 1:10 to 1:50, but the specification seems to indicate that the claimed ratio should be a binder to phosphor particle ratio.

In the present Amendment, the language in claim 1 pertaining to the scattering lengths has been deleted. In addition, claim 2 has been cancelled, and claim 1 has been amended to recite, inter alia, that the stimuable phosphor layer of the radiation image storage panel includes

a binder and stimuable phosphor particles in a weight ratio of 1:10 to 1:50. It is believed that these amendments address the Examiner's concerns under section 112.

Accordingly, reconsideration and withdrawal of the section 112 rejection are respectfully requested.

In Paragraph No. 8 of the Action, claims 1-5 and 7-10 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yanagita et al (US 5,877,504) in view of Van den Bergh et al (US 6,815,092 B2).

Applicant submits that this rejection should be withdrawn because Yanagita et al '504 and Van den Bergh et al '092 do not disclose or render obvious the radiation image storage panel of the present invention.

Yanagita et al '504 is silent with respect to a number of the characteristic features of the radiation image storage panel according to the present invention. In more detail, Applicant points out the following:

(1) Phosphor layer: Yanagita et al does not refer to the form or shape of the phosphor particles.

(2) Light reflecting layer: Yanagita et al does not disclose the materials of the light-reflecting particles according to the present invention.

(3) Protective layer: Yanagita et al teaches a protective layer (col. 12, lines 20-25), but appears to be silent with respect to the protective layer comprising a polymer material and a filler dispersed in the polymer material, as recited in the present claims.

As for the haze of the protective layer provided on a radiation image storage panel, the Examiner cites Van den Bergh et al and states that, absent some degree of criticality, the

recitation of a particular degree of haze, such as from 5 to 80%, would have been an obvious design choice in order to achieve a radiation detecting panel with improved quality.

Applicant notes that the haze value in claim 1 as amended is recited to be 30 to 60%.

Table 1 on pages 32-33 of the specification shows the criticality of the range of recited haze values. The Examiner will kindly compare Example 1 and Example 2, both of which are for a radiation image storage panel having the same 300 μm thick stimuable phosphor layer. The storage panel of Example 2 having a protective layer with a haze value of 42 is superior to the storage panel of Example 1 having a protective layer with a haze value of 6, not only in DQE but also in MTF.

The same comparison is applicable to Example 1-1 and Example 2-1, both of which are for a radiation image storage panel having the same 350 μm thick stimuable phosphor layer. The storage panel of Example 2-1 having a protective layer with a haze value of 42 is superior to the storage panel of Example 1-1 having a protective layer with a haze value of 6, not only in DQE but also in MTF.

Thus, the criticality of the range of haze values recited in claim 1 as amended is apparent.

In view of the above, reconsideration and withdrawal of the §103(a) rejection based on Yanagita et al '504 in view of Van den Bergh et al '092 are respectfully requested.

In Paragraph No. 9 of the Action, claim 6 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yanagita et al and Van den Bergh et al, and further in view of Fukui (US 6,246,063 B1).

The Examiner relies upon Fukui '063 as disclosing an optimal protective layer for a radiation image panel wherein the protective layer comprises a polymer and a filler wherein the filler has a mean particle size of 0.1 to 1.0 micron in an amount of 0.5 to 10 wt %.

Even assuming that a person of ordinary skill in the art would have been motivated to incorporate the protective layer of Fukui '063 in the radiation image storage panel of Yanagita et al, Fukui '063 does not make up for the other deficiencies of Yanagita et al and Van den Bergh et al discussed above.

Accordingly, Applicant submits that the section 103 rejection of claim 6 based on Yanagita et al '504 and Van den Bergh et al '092, and further in view of Fukui '063, should be reconsidered and withdrawn.

Allowance and rejoinder of process claims 11-13 are respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.111
U.S. Appln. No. 10/652,316

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CUSTOMER NUMBER

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brett S. Sylvester", written over a horizontal line.

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